

Agenda
State/EPA UIC Meeting
November 16, 2016

I. Discussion regarding the Tables in the State's letters

1. Questions/Comments/Differences when comparing Attachment A from the October 15, 2015 letter with Attachment 1 "Preliminary Assessment of 11 Aquifers HTAE" from the July 15, 2015 letter:

- a. API 02918136 – Attachment A states the Walker Formation is exempt; where is the exempt status of this formation in the Round Mountain field documented?

The Walker is one of the 11 HTAE aquifers in Round Mountain. It is also listed as one of the HC producing formation/zone in the Pyramid area of the field.

- b. API 02918114 and API 02918119 – these wells are injecting into the Olcese Formation which is an HTAE zone in the Round Mountain Field, but the wells are not marked as HTAE wells on Attachment A.

029-18114 was ordered shut (Order 1064, 8/18/2014), while 029-18119 was P&A'd. They were no longer considered in the updates, but yes, they can be marked as belonging to the 11 HTAE aquifers.

- c. Kern River Field, Chanac – 12 or 13 wells into Chanac? Are all of the wells into both the Santa Margarita and the Chanac, or only 10?

Thirteen (13) wells are listed as injecting into both Chanac and Santa Margarita. Three (3) of these wells have already been converted to OG wells (production) in the Kern River formation. So, there are only 10 wells injecting into both Chanac/S. M.

- d. Kern River Field – 32 or 36 wells into the Santa Margarita? 10 or 13 into both the Santa Margarita and the Chanac?

Twenty-two (22) wells are listed as having only the Santa Margarita as the injection zone. One of these 22 is actually a water supply well from the Chanac zone. One well was already ordered shut, another relinquished by the operator.

There are fourteen (14) more wells listed as having the S. M. as an injection zone together with other zones. One well was determined to be injecting only into the S. M., another injecting only into the Kern River zone (already relinquished), and three (3) wells converted into OG wells (see item c. above).

- e. Round Mountain Field, Olcese – 4 wells permitted into both the Olcese and Walker **AND** Freeman-Jewett zones?

Yes

- f. Round Mountain Field, Walker – 29 or 30 wells into the Walker?

Twenty-nine (29) wells listed as having the Walker as injection zone (together with other zones).

2. Question/Comment on the Oct 15 176 wells letter:

- Attachment A of the October 15 letter seems to indicate the state intends to treat all of the wells which inject into the HTAE formations as Category 3 wells subject to the February 2017 shut in deadline rather than the December 31, 2016 deadline since they also appear to inject into non HTAE HC zones. Is this correct?

We will need to correct this to reflect the December 31, 2016 deadline.

3. Questions/Comments on the Oct 21 Water Board letter: **SWB will update separately**

- a. Why were NOV's not issued when the operator was late in responding or didn't respond at all? For example, see well #s 21, and 34-40.
- b. What was the rationale for WB to issue NOV's for certain violations and not all violations? For example, some operators submitted work plans and/or technical reports late and did not receive a NOV (see wells #21, 22, 23, and 28 as examples) and other operators submitted work plans and/or technical reports late and received NOV's (see wells #2-4, 6-8, 10, etc.).
- c. Well #2 on the list of 40 --an incomplete technical report was delivered to WB on 8/1/2014 and a revised one (final) was delivered to the WB on 9/9/2014; however, the reason for a NOV is an incomplete technical report? Does this mean the final technical report is also incomplete?

4. Question on the Oct 15, 2015 CAT 2 letter versus the July 31 letter Category 2 letter:

- Please explain how the count went from 24 wells of concern to 6.

In the July 31, 2015 letter to EPA, DOGGR and SWB determined that of the total 5,625 Category 2 wells, 5,475 were thermal injection wells (steam flood or cyclic steam). Of the 150 non-thermal wells, 126 were determined to be no longer injectors (e.g., those converted to production or observation wells). The remaining 24 wells were further evaluated.

Of these 24 wells, it was mentioned in the October 15, 2015 letter that 19 were water flood wells. Three (3) of these WF wells were determined to meet the screening criteria used in Enclosure D, Feb. 6, 2015 Letter (injection zone is less than 1500 feet deep, or injection well is within 1-mile proximity to a water supply well and within 500 feet vertically from the injection zone).

Thermal wells were also screened according to Enclosure D. In the October 15 letter, it was also mentioned that 3 thermal wells (2 cyclic steam, 1 steam flood) met the screening criteria. The SWB issued information orders for these six (6) water flood and thermal wells.

The SWB will update in a separate communication their work on the 13267 orders. They are in the process of updating lists of additional wells that meet the screening criteria in Enclosure D.

5. Questions from a review of 176 table compared with information on the DOGGR website:

- In general, how regularly does DOGGR plan to update the website to reflect revised well data (e.g. status – active, idle, shut-in, etc., or type of well- disposal, EOR, etc.)? Assuming some of this data is coming from responses to information orders how is new information incorporated? Also, should all highlighted wells be revised to “shut in” rather than “for possible shut in”?

We will update the website as new information comes or well status gets updated. We need to coordinate these updates with the SWB. Those thirty-one (31) wells that were indicated for possible shut-in the October 15 letter (yellow highlights in Attachment A) have all been shut-in prior to the deadline, including 2 additional wells indicated in Attachment C. Attachment B lists all these wells.

- How does DOGGR confirm that wells are actually plugged and abandoned? Are there written procedures for this?

The district issues the P&A permit to ensure that this is done according to regulations. When the work is commenced, the permit may require witness of certain plugs and a field engineer may be sent to do an actual witness and/or inspection of the work done. The operator has to submit the Well History of the work done and this is reviewed for accuracy against the field witness and/or inspection.

- Some differences noted, please clarify:
 - API #02918119 – MacPherson Oil Company, Round Mountain, Attachment A to the October 15, 2015 letter indicates that this well was plugged on June 4, 2015, and the website show the status of this well as plugged and abandoned; but no paperwork to document this status was found on the website.

The online well data file has been updated to show this information.

- API #02984583 – E & B Natural Resources Management Corporation, Poso Creek – Attachment A to the October 15 letter states that this well has been shut-in since March 2015, except in the exempted Santa Margarita zone. On DOGGR’s website, injection data was reported for this well in August 2015. Into what zone is injection currently taking place?

The online data was in error. We have already corrected this data. This well is injecting only into the Santa Margarita (exempted zone).

- API # 02947362 – MacPherson Oil Company, Round Mountain, there is a discrepancy as to the type of well – Disposal (WD) or water flood (WF); In Attachment A to the October 15 letter, the current status for this well is WD, and it is noted as injecting into a hydrocarbon bearing formation. The website indicates this well is a WF not a WD, and the last injection was in 2010. What is the correct status of this well?

Injection has been determined to be into a HC zone (Vedder), hence it was reconsidered to be a WF and not WD.

- API # 03044445 – CMO, Inc., Chico-Martinez - In Attachment A to the October 15 letter, the status for this well is “shut-in order has been issued by DOGGR”. DOGGR’s website indicates that this well is an O&G well, not an injection well. What is the correct status of this well?

The well has been converted to OG (production), from a permitted WD.

- API 02940729 – Chevron, Round Mountain – letter of relinquishment is not found on the website.

This is already posted online.

- API 03010795 – Vintage, Kern River – letter of relinquishment is not found on the website.

We are still trying to locate the letter. We have communications from the operator confirming the status and plans of these wells. (Attached).

II. Status of Arroyo Grande A/E application and response to public comments

As mentioned last Friday, this AE is ready to be transmitted to the EPA. (On the mail 02.08.2016).

III. Status of other AE proposals – Round Mountain – Main and Coffee Canyon; Tejon – Western

Round Mountain is ready for transmittal to the SWB for their review. The status of the other AE applications are summarized in the tables given to EPA last meeting.

IV. Elk Hills update

The SWB and DOGGR are still in discussion with CRC to resolve the data. CRC has presented a numerical model calibrated with well data to show that the flow is not expected to go towards the area where there may be beneficial use wells in the future. Discussions and agreements still have to be made to ensure that this prediction is backed up by hard data. This may need monitoring or sentry wells.

V. Alon update